



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 West 15th St, Suite 3200
HELENA, MONTANA 59626**

Ref: 8MO

November 23, 2010

Mr. Walt Allen
Ashland District Ranger
P.O. Box 1168
Ashland, Montana 59003

Re: CEQ # 20100405; EPA Comments on
Beaver Creek Landscape Management
Project Draft EIS

Dear Mr. Allen:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the Custer National Forest, Ashland Ranger District, Beaver Creek Landscape Management Project (BCLMP) in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. 4231 and Section 309 of the Clean Air Act. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document.

The EPA supports vegetative treatments to reduce fire risks and susceptibility to insect and disease agents, and to increase structural diversity and ecological integrity. We also support the need to restore fire as a natural disturbance process, and help address competing and unwanted vegetation and fuel loads, fire risk and forest health. We encourage planning, design and conduct of vegetation management activities in a manner that minimizes adverse environmental effects, and improves watershed conditions whenever possible.

There do not appear to be surface waters within the project area that are designated by the State of Montana as water quality impaired, however, Otter Creek and Tongue River, downstream from the project area are listed on Montana's Clean Water Act Section 303(d) list of impaired waters; and Beaver Creek and Little Pumpkin Creek are on the Montana 303(d) list, although they have not been adequately assessed for impairments to beneficial uses. It is important that project planning, design and implementation be carried out in a manner that minimizes adverse watershed effects through appropriate use of BMPs on all harvest and vegetation management activities; minimization of new road construction; siting of needed roads

away from streams and wetlands, avoiding and minimizing road stream crossings; and improving road BMPS and drainage of existing roads. We also support improvements on grazing allotments within the project area to address functioning-at-risk streams and help offset adverse effects of proposed timber harvest and road construction activities. In addition we encourage inclusion of other watershed restoration elements in the proposed project such as additional road decommissioning and/or road storage to reduce road sediment delivery to streams and improve watershed conditions to help address downstream water quality impairments.

It is important that the BCLMP project be consistent with the Total Maximum Daily Loads (TMDLs) and Water Quality Plans being prepared by the MDEQ for downstream Otter Creek and Tongue River to avoid further degradation of these water quality impaired waters. Among the probable causes for water quality impairment in the downstream 303(d) listed waterbodies are alteration in stream-side or littoral vegetative covers and suspended solids/bedload; and among the probable sources of impairment are roads and grazing. The BCLMP project, therefore, has potential to improve both roads and grazing practices. We encourage the Ashland Ranger District and Custer National Forest to coordinate their proposed BCLMP activities with Montana DEQ TMDL program staff to assure consistency of proposed activities with the State's TMDL development (contact Mr. Dean Yashan of MDEQ at 406-444-5317 or Mr. Robert Ray at 406-444-5319).

We also note that the proposed project includes prescribed burning on 8,047 acres and we did not see any analysis and disclosure of potential effects of burning on air quality. The Northern Cheyenne Indian Reservation is designated as a Class I air quality area, and the Town of Lame Deer is designated a PM10 non-attainment area. While it is likely that good air dispersion characteristics exist in the BCLMP area to disperse smoke and air pollutants from burning, we believe the NEPA analysis should include air quality impact analysis for proposed burning on over 8,000 acres of land. Smoke from fire contains air pollutants, including tiny particulates (PM10 and PM2.5) which can cause health problems, especially for people suffering from respiratory illnesses such as asthma or emphysema, or heart problems. Smoke can reduce visibility and diminish the appreciation of scenic vistas and Class I air quality areas. The EIS should characterize any air quality problems within the analysis area in terms of source of air pollution, frequency, degree of severity, and describe effects of proposed prescribed burning on air quality. We encourage the Custer National Forest to contact EPA air quality specialist Mr. Kenneth Distler in Denver at 303-312-6043 in regard to inclusion of air quality impact analysis for prescribed burning activities in the FEIS.

Also, we saw very little discussion of monitoring and adaptive management in the DEIS. We believe monitoring should be an integral part of land management. The EPA endorses the concept of adaptive management whereby actual effects of implementation activities are determined through project monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, including additional mitigation if necessary, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow

identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated.

We recognize that the BCLMP project area includes only a few perennial stream segments (page 257), and no fisheries have been identified in the BCLMP area (page 263), therefore, we can understand the need perhaps for lesser levels of water quality monitoring. At a very minimum, however, some implementation monitoring should be conducted to document and verify that BMPs were adequately implemented on the ground and that BMPs are effective (particularly for road construction, reconstruction, road maintenance and for timber harvests).

We recommend that the FEIS include a description of the monitoring and adaptive management program that will be carried out to assure that resource impacts of the proposed project are identified and adequately mitigated if necessary. We encourage adequate monitoring budgets for conduct of monitoring to document BMP effectiveness and effects of road construction and timber harvests.

The EPA's further discussion and more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the Beaver Creek Landscape Management Project DEIS are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information) due to potential for adverse effects to water quality and air quality from proposed management activities. A copy of EPA's rating criteria is attached. We recommend additional analysis and information to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and comment on the DEIS, and the opportunity to review the proposed project in the field. If we may provide further explanation of our comments please contact Mr. Steve Potts of my staff in Helena at 406-457-5022 or in Missoula at 406-329-3313 or via e-mail at potts.stephen@epa.gov . Thank you for your consideration.

Sincerely,



Julie A. DalSoglio
Director
Montana Office

Enclosures

cc: Larry Svoboda/Connie Collins, EPA 8EPR-N, Denver
Robert Ray/Mark Kelley/Dean Yashan, MDEQ, Helena

EPA COMMENTS ON THE BEAVER CREEK LANDSCAPE MANAGEMENT PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Brief Project Overview:

The Custer National Forest (CNF), Ashland Ranger District, developed the Beaver Creek Landscape Management Project (BCLMP) EIS to evaluate alternatives and disclose environmental impacts of proposed vegetation management activities in the drainages of Beaver Creek, Little Pumpkin Creek, and East Fork Otter Creek. The project area, consisting of approximately 14,052 acres, is located approximately 17 miles northeast of Ashland, Montana in Powder River County. The purpose and need is to promote Forest Plan desired vegetative conditions; reduce fuel loads; and improve forest resilience to fire, particularly in high risk areas identified in the Powder River County Wildfire Protection Plan. The project involves managing forest vegetation for more early, mid and late development open forest structural classes to promote disturbance regimes and processes more consistent with a fire adapted ecosystem, using a combination of commercial, non-commercial tree removal and prescribed burning. Two alternatives were evaluated in detail, and other alternatives were considered, but dismissed.

Alternative 1 is the No Action alternative, which provides a baseline for comparison of the environmental effects of the other alternatives.

Alternative 2 is the proposed action, consisting of treating approximately 2,694 acres with commercial timber harvest, and 4,220 acres of non-commercial thinning activities (hand and mechanical). Approximately 20,358 hundred cubic feet (CCF) of harvested timber could be sold under contract. Prescribed burning is proposed on 4,463 acres of the harvest and non-commercial proposed activities post treatment. In addition to these treatments, prescribed fire is proposed on 3,594 acres. Vegetation treatments are needed to move the BCLMP area vegetation character towards a more fire-adapted state. Approximately 20 miles of new temporary roads would be constructed; and 8 miles of road would be reconstructed. All roads used to facilitate commercial log-hauling operations would receive either reconstruction, pre-haul maintenance; haul maintenance; post-haul maintenance or a combination thereof, including 24 miles of existing roads. Temporary roads would be closed and obliterated after management activities are completed.

Comments:

1. We appreciate inclusion of clear narrative discussions describing the proposed action, as well as tables presenting proposed treatments and descriptions, design features and mitigations, maps showing mechanical treatment areas, prescribed burning areas, and road management activities (pages 13 to 47). The narrative, tables, and maps in Chapter 2, and Table 6 in Chapter 3 comparing effects of no action vs. the proposed action, facilitate improved project understanding, help define issues, and assist in evaluation of alternatives providing a clearer basis of choice among options for the decisionmaker and

the public in accordance with the goals of NEPA.

Alternatives

2. Only one action alternative, the proposed action, has been evaluated in detail in the DEIS, although several other action alternatives were considered, but eliminated from detailed study (pages 47-51). We note that the regulations for implementation of NEPA state that an EIS must "rigorously explore and objectively evaluate all reasonable alternatives" [40 CFR 1502.14(a)]. The courts have established that this direction does not mean that every conceivable alternative must be considered, but that selection and discussion of alternatives must permit a reasoned choice and foster informed decision making and informed public participation. Evaluation of only one action alternative could call into question whether all reasonable alternatives have been "rigorously explored and objectively evaluated," although what constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.

While we believe that detailed evaluation of more than one action alternative in a DEIS better demonstrates that a "reasonable range of alternatives" were evaluated and considered, we also recognize that several other action alternatives are briefly described in the DEIS, and were considered with reasons were provided for their elimination from detailed evaluation. These include earlier alternatives evaluated for the Whitetail Hazardous Fuels Reduction Project and the East Otter Hazardous Fuels Reduction Project, and these alternatives have since been further evaluated and refined, and incorporated into the BCLMP EIS (page 3). Also, the proposed action appears to focus on and appropriately address the purpose and need for the project.

We are, therefore, not going to dispute the Ashland Ranger District's decision to include detailed evaluation of only one action alternative in the BCLMP EIS, or question whether all reasonable alternatives have been "rigorously explored and objectively evaluated." For your information a structured process for identifying and documenting that a "range of reasonable alternatives" has been analyzed can be found at, <http://www.shipleygroup.com/news/articles/0911.pdf> .

3. The abstract and summary at the front of the DEIS indicates that the proposed action would treat 6,914 acres by mechanical means, and yet the Chapter 2 alternatives description indicates that 2,694 acres would be treated by mechanical means (page 13). These disclosures should be reviewed to assure consistent presentation of information in the FEIS.

Water Resources

4. While the EPA supports conduct of vegetation management activities to reduce fire risks and improve forest resilience to fire, and insects and disease, we also believe planning and conduct of vegetation management activities should be carried out in a manner that

minimizes adverse watershed effects, particularly where there are watersheds of water quality impaired waterbodies in the project area (i.e., waterbodies identified on Montana's Clean Water Act Section 303(d) list).

We appreciate the DEIS discussion of water quality impaired waterbodies in the BCLMP area that are listed by the Montana Dept. of Environmental Quality (MDEQ) under Section 303(d) of the Clean Water Act (pages 251-252). While Beaver Creek and Little Pumpkin Creek are listed on the Montana 303(d) list, the MDEQ Clean Water Act website indicates that they have not yet been adequately assessed, (<http://cwaic.mt.gov/query.aspx>). Otter Creek (headwaters to its confluence with the Tongue River, 108.1 miles, waterbody ID MT42C002_020) downstream from the project area is listed as water quality impaired by the MDEQ. Otter Creek does not fully support agriculture, aquatic life, and warm water fishery uses, and insufficient information is available to assess support of primary contract recreation use. Probable causes of impairment are listed as alteration in stream-side or littoral vegetative covers, iron, salinity, and solids (suspended/bedload); and probable sources of impairment are listed as agriculture, grazing in riparian or shoreline zones, highways, roads, bridges, infrastructure (new construction), site clearance (land development or redevelopment), and natural sources.

The Tongue River further downstream from the project area is also listed as impaired, not fully supporting aquatic life and warm water fishery uses, with probable causes listed as iron, low flow alterations and solids (suspended/bedload); and probable sources listed as irrigated crop production, natural sources, streambank modifications/destabilization, and impacts from hydrostructure flow regulation/modification.

We support project planning and design to minimize adverse watershed effects, such as appropriate use of BMPs on all harvest and vegetation management activities; minimization of new road construction; siting of needed roads away from streams and wetlands, avoiding and minimizing road stream crossings; and improving road BMPs and drainage of existing roads. We also support inclusion of watershed restoration elements such as grazing allotment improvements, road decommissioning and road storage to reduce road sediment delivery to streams and improve watershed conditions in the project to help address downstream water quality impairments.

It is important that the BCLMP project be consistent with the TMDLs and Water Quality Plans being prepared by the MDEQ for Otter Creek and Tongue River to avoid further degradation of downstream water quality impaired waters. We encourage the Ashland Ranger District and Custer National Forest to coordinate their proposed BCLMP activities with Montana DEQ TMDL program staff to assure consistency of proposed activities with the State's TMDL development (contact Mr. Dean Yashan of MDEQ at 406-444-5317 or Mr. Robert Ray at 406-444-5319). We recommend review of the MDEQ's pamphlet, ***"Understanding the Montana TMDL Process."*** <http://deq.mt.gov/wqinfo/TMDL/default.mcp>.

Roads

5. Among the probable causes for water quality impairment in the downstream 303(d) listed waterbodies are alteration in stream-side or littoral vegetative covers and suspended solids/bedload; and among the probable sources of impairment are roads and grazing. It is important, therefore, that proposed vegetative management activities be carried out in a manner that minimizes and avoids adverse impacts to stream-side vegetation and transport of suspended sediment/bedload downstream to 303(d) listed waters.

We are pleased that seven short road segments totaling approximately 2.1 miles would be obliterated during or after treatment activities cease in the Upper Beaver and Little Pumpkin Creek watersheds, thereby reducing the risk of cumulative watershed effects over the long-term (pages 33, 265). Such road obliteration should reduce sediment production and transport and improve watershed conditions over the long-term. If possible we encourage inclusion of additional road decommissioning in the proposed project to further improve watershed conditions.

We are pleased that the proposed BCLMP project involves no new construction of permanent roads (page 143), although the DEIS indicates that 8 miles of existing road would be reconstructed and 18.2 to 20 miles of miles of temporary roads in 63 segments are proposed for construction (pages 33, 141-143). This is a significant amount of road construction/reconstruction. Road construction/reconstruction generally involves sediment production and transport. We note that roads are listed among the probable sources of sediment to downstream impaired waters. Roads are often the major anthropogenic source of sediment that adversely affects hydrology, water quality, and fisheries of streams in National Forests, and roads can also fragment wildlife habitat and reduce wildlife security, and promote spread of weeds.

We are pleased that the DEIS states that most BCLMP road segments are located along ridges or mid slopes, or are well vegetated with minimal vehicle use; and are located sufficient distance from most perennial streams to allow for dispersion of surface flow and deposition of sediment prior to reaching surface water (page 258). Although the DEIS also states that 7 miles of road will be constructed along lower slopes adjacent to the bottom of draws. Such road locations increase potential for sediment transport downgradient to surface waters.

Several roads are stated to be located near streams (e.g., roads 4769, 41338, 41334, page 259). The DEIS indicates that Road 4769 is not properly drained and routes surface flow and sediment to Stacey Creek at the point where the road turns south and away from the mainstem channel in NESW section 32; and that Road 41338 crosses the perennial headwater mainstem of Sheep Creek below Spring #1. There is potential for surface flow and sediment to be routed to Sheep Creek if the road is bladed and vehicle traffic increases. Road 41334 crosses Beaver Creek above Beaver Creek Spring. Will road

sediment sources on these streams be addressed with appropriate BMPs during the proposed project?

The DEIS states that only one new road stream crossing would be required (page 263). How many existing road stream crossings are in the BCLMP project area?

The DEIS states that 22 miles of existing roads would receive maintenance (pages 33). However, Table 45 (page 260) indicates that there are 198 miles of National Forest System (NFS) roads in the area. What is the condition of the 176 miles of NFS roads in the project area that are not proposed for road maintenance? Do all roads in the BCLMP area receive adequate road maintenance to prevent sediment delivery to streams? What is the condition of roads in the project area?

The DEIS states that Forest BMP Audits on roads would be completed within two years of project implementation (page 263). Does the Custer National Forest carry out routine road BMP audits or inspections of road conditions on Forest roads? We encourage conduct of inspections and evaluations to identify conditions on roads and other anthropogenic sediment sources that may cause or contribute to sediment delivery and stream impairment, and to include activities in the project to correct as many of these conditions and sources as possible. Will all roads in poor condition located near streams or with stream crossings be maintained?

Improperly designed and poorly located and/or maintained roads can modify natural drainage networks and accelerate erosional processes resulting in increased stream sedimentation, degradation of aquatic habitats, and altered channel morphology. EPA fully supports conduct of road maintenance and BMP and drainage improvements to forest roads, and decommissioning of roads that cannot be properly maintained, and reductions in road density to improve watershed conditions. Road system improvement measures are critical to protecting aquatic health (e.g., removing and replacing culverts, installing drainage dips or surface water deflectors, armoring drainage structures, grading and replacement of aggregate to reinforce wet surface areas, ditch construction and cleaning). Our general recommendations regarding roads for your information are as follows:

- * minimize road construction and reduce road density as much as possible to reduce potential adverse effects to watersheds;
- * locate roads in uplands, away from streams and riparian areas as much as possible;
- * minimize the number of road stream crossings;
- * locate roads away from steep slopes or erosive soils and areas of mass failure;
- * stabilize cut and fill slopes;

- * provide for adequate road drainage and control of surface erosion with measures such as adequate numbers of waterbars, maintaining crowns on roads, adequate numbers of rolling dips and ditch relief culverts to promote drainage off roads avoid drainage or along roads and avoid interception and routing sediment to streams;
- * consider road effects on stream structure and seasonal and spawning habitats;
- * allow for adequate large woody debris recruitment to streams and riparian buffers near streams;
- * properly size culverts to handle flood events, pass bedload and woody debris, and reduce potential for washout;
- * replace undersized culverts and adjust culverts which are not properly aligned or which present fish passage problems and/or serve as barriers to fish migration;
- * use bridges or open bottom culverts that simulate stream grade and substrate and that provide adequate capacity for flood flows, bedload and woody debris where needed to minimize adverse fisheries effects of road stream crossings.

Blading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided. It is important that management direction assures that road maintenance (e.g., blading) be focused on reducing road surface erosion and sediment delivery from roads to area streams. Practices of expediently sidecasting graded material over the shoulder and widening shoulders and snow plowing can have adverse effects upon streams, wetlands, and riparian areas that are adjacent to roads. Road use during spring breakup conditions should also be avoided. We encourage closing roads to log haul during spring break up to reduce rutting of roads that increase road erosion and sediment delivery, and graveling of haul roads. Snow plowing of roads later in winter for log haul should also be avoided to limit runoff created road ruts during late winter thaws that increase road erosion (i.e., ruts channel road runoff along roads).

Forest Service Region 1 provides training for operators of road graders regarding conduct of road maintenance in a manner that protects streams and wetlands, (i.e., Gravel Roads Back to the Basics). If there are road maintenance needs on unpaved roads adjacent to streams and wetlands we encourage utilization of such training (contact Donna Sheehy, FS R1 Transportation Management Engineer, at 406-329-3312).

We also note that there are training videos available from the Forest Service San Dimas Technology and Development Center for use by the Forest Service and its contractors (e.g., "Forest Roads and the Environment"-an overview of how maintenance can affect watershed condition and fish habitat; "Reading the Traveled Way" -how road conditions

create problems and how to identify effective treatments; “Reading Beyond the Traveled Way”-explains considerations of roads vs. natural landscape functions and how to design maintenance to minimize road impacts; “Smoothing and Reshaping the Traveled Way”-step by step process for smoothing and reshaping a road while maintaining crowns and other road slopes; and “Maintaining the Ditch and Surface Cross Drains”-instructions for constructing and maintaining ditches, culverts and surface cross drains).

Grazing

6. The DEIS states that livestock grazing is widespread in the project area, and potentially the main influence of water resources in the analysis area (pages 261, 258, 267). The BCLMP encompasses four grazing allotments: Beaver Creek, Deer Creek, Liscom Butte, and Whitetail Allotments (page 210). Field observations of streams in the BCLMP area suggest that they fall within the functional at-risk category, susceptible to degradation. As noted above, grazing in riparian areas is identified among the sources of impairment in downstream water quality impaired waters. Grazing can adversely impact streams and riparian areas by changing, reducing, or eliminating riparian vegetation leading to stream channel widening and aggradation or lowering of the water table, destabilized stream banks, loss of aquatic habitat, and adverse effects on fisheries and water quality (sediment, nutrients, fecal coliform, temperature effects, etc.).

The DEIS states livestock trailing/trampling (current and historic) tends to obliterate natural channel features where they develop (page 257). Cattle grazing and/or trailing in channels, draws and low lying areas where water generally flows can cause or exacerbate gully creation and other erosive action. Grazing allotments should be managed to avoid excessive livestock trampling of streambanks and channels.

The design features and mitigations table in Chapter 2 states that fuels and timber staff will coordinate with District range staff to reduce effects of grazing and management of allotments (page 42). Specific information on proposed activities to reduce effects of grazing, however, is not provided. The design features and mitigations table also states that locations of areas where range improvements will be occurring will be identified, but we did not see such identification information in the DEIS.

We recommend that potential grazing and allotment management improvements in the project area be more clearly identified and described in the FEIS. We very much support inclusion of improvements in grazing systems and practices in the proposed project (e.g., use of monitoring and adaptive management, enhancing herding, off-stream watering, salting, fencing and other range improvements or practices). We recommend that grazing allotment management improvements be described in regard to their ability to help offset sediment production and transport associated with proposed timber harvests and road construction.

Water Yield

7. We are pleased that the DEIS states that water yield and streamflow increases due to timber harvest and burning will not be measureable (page 260, 264, 267). The DEIS states that all watersheds are be well under a 50 percent threshold identified as causing detectable changes in annual water yield for the Central Plains (page 267).h

Wetlands and Riparian Areas

8. EPA considers the protection, improvement, and restoration of wetlands and riparian areas to be a high priority. Wetlands and riparian areas increase landscape and species diversity, and are critical to the protection of designated water uses. Executive Order 11990 requires that all Federal Agencies protect wetlands. In addition national wetlands policy has established an interim goal of **No Overall Net Loss of the Nation's remaining wetlands**, and a long-term goal of increasing quantity and quality of the Nation's wetlands resource base. The DEIS states that wetlands in the project area are associated with streams (page 257). Wetland impacts should be avoided, and then minimized, to the maximum extent practicable, and if wetland impacts occur, then impacts should be compensated for through wetland restoration, creation, or enhancement.

It is also important that riparian areas be properly managed to maintain and restore the health of watersheds and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses. Maintenance of adequate riparian vegetation in stream-side areas is needed to stabilize streambanks and stream channels during floods and other periodic high flow events. Proper management of riparian areas maintains water quality, including water temperature, and hydrologic processes; maintains naturally functioning riparian vegetation communities; and supports habitats for riparian- or wetland-dependent species.

We encourage avoidance of timber harvest in riparian areas, and no equipment operation or road construction in wetland areas. We recommend that harvest units be reviewed in the field to determine the presence of wetlands and identify wetlands on the Sale Area Map and be flagged on the ground so that timber contractors will be able to avoid them.

Soils

9. The DEIS states that the soils impact analysis focuses on concern about potential project effects on soil productivity over the next rotation of trees, which is approximately 150 years (page 124). While soils productivity is an important concern, we believe soil erosion and sediment production and transport to surface waters is also an important concern that should be considered during soils impact analysis for a project involving timber harvest and road construction.

10. The DEIS states that 2,694 acres will be harvested by mechanical means (page 13). We generally recommend avoidance of timber harvest and road construction in areas with high risk of sediment production or erosion potential, and areas highly susceptible to mass failure; or at a minimum we encourage use of harvest/yarding methods that reduce ground disturbance and sediment production and transport risks when harvesting timber on erosive soils or steep slopes to reduce adverse effects to soil and water quality. Are any of the 2,694 acres of mechanical timber harvest proposed on erosive landtypes?

It is stated that soil effects would be reduced by operating by operating equipment on skid trails when the soils are drier than field moisture capacity, and most logging would occur during summer when soils are dry (page 134). Only 123 acres of the 2,694 acres of mechanical timber harvest are proposed for logging by less ground disturbing skyline cable logging (page 133). Are these 123 acres proposed for cable logging the only areas of mechanical timber harvest in the BCLMP project area with greater erosion potential? Are any ground harvest units to be harvested during winter on snow or frozen ground to further reduce adverse effects to soils and erosion?

The DEIS notes an area of old slumps below Road 44094 (page 133). We are pleased that it is stated that the sale administrator will consult with the Forest Soil Scientist or Hydrologist before establishing any roads or skid trails in this area. Is this the only area with mass failure potential within the harvest area?

It is important that adequate measures to reduce erosion are incorporated into the project to assure that all of the harvest units, particularly units with sensitive soils or on landtypes with greater vulnerability of erosion and mass wasting include adequate mitigation measures and/or less damaging harvest methods to avoid erosion and other detrimental soil impacts and/or higher levels of sediment production and transport.

While we have some concerns about the potential for erosion during ground based timber harvests, we appreciate the identification of soils mitigation measures in Table 5 (pages 43, 44). We often suggest mitigation measures such as use of existing skid trails wherever possible; restrictions on skidding with tracked machinery in sensitive areas; using slash mats to protect soils; constructing water bars; creating brush sediment traps; adding slash to skid trail surfaces after recontouring and ripping; seeding/planting of forbs, grasses or shrubs to reduce soil erosion and hasten recovery; as well as recontouring, slashing and seeding of temporary roads and log landing areas following use to reduce erosion and adverse impacts to soils.

11. The DEIS states that there is currently less than six percent detrimental soil disturbance within project activity areas, and that the proposed action would meet Region 1 Soil Quality Standards (page 145). However, we did not see any discussion of field soil monitoring proposed to document and verify that Regional Soil Quality Standards would be met. We recommend that some field soil monitoring be carried out to verify that the

Region 1 Soil Quality thresholds are not exceeded, particularly on sensitive landtypes? {See Region 1 Soil Monitoring Protocol (DRAFT - The 2007 Northern Region Soil Quality Monitoring Protocol, 6-15-07, Version 3.1) or more recent versions for soil monitoring guidance.}

12. Table 5 (page 44) refers the DEIS reader to Table 1 to see specified amounts of woody debris to be retained in treatment units to ensure future soil productivity. Table 1 indicates that fuels would be reduced to a range of 3-7 ton/acre, of which 0-3 inch diameter does not exceed 3 tons/acre, and 3-12 inch plus diameter, with 50% being 12" and larger when available, is a minimum of 4 tons/acre. This seems like a low level of woody debris retention. Will this woody debris retention amount allow maintenance of soil productivity in harvest units over the long-term.

Monitoring

13. We saw very little discussion of monitoring and adaptive management in the DEIS. We believe monitoring should be an integral part of land management. The EPA endorses the concept of adaptive management whereby actual effects of implementation activities are determined through project monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, including additional mitigation if necessary, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated.

The EPA particularly believes that water quality/aquatics monitoring is often a necessary and crucial element in identifying and understanding the consequences of one's actions, and for determining effectiveness in BMPs in protecting water quality. The achievement of water quality standards for non-point source activities occurs through the implementation of BMPs. Although BMPs are designed to protect water quality, they need to be monitored to verify their effectiveness. If found ineffective, the BMPs need to be revised, and impacts mitigated.

Since it appears that the BCLMP project area includes only a few perennial stream segments (page 257), and no fisheries have been identified in the BCLMP area (page 263), we can understand the need perhaps for lesser levels of water quality monitoring. At a very minimum, however, some implementation monitoring should be conducted to document and verify that BMPs were adequately implemented on the ground and that BMPs are effective (particularly for road construction, reconstruction, road maintenance and for timber harvests). How will the effectiveness of BMPs be known unless some BMP implementation monitoring is carried out?

We recommend that the FEIS include information on proposed monitoring that will be carried out to assure that resource impacts of the proposed project are identified. We encourage adequate monitoring budgets for conduct of monitoring to document BMP effectiveness and effects of road construction and timber harvests.

Air Quality

14. The proposed action includes post-treatment prescribed burning on 4,463 acres and prescribed fire on an additional 3,594 acres (page 13). The EPA supports judicious and well planned use of prescribed fire to reduce hazardous fuels and restore fire to forest ecosystems. The EPA also recognizes and supports the national goal reduce the risk of uncontrolled wildfire in wildland-urban interface areas.

However, we did not see any DEIS analysis of potential effects of prescribed burning on air quality in the analysis area. While it is likely that good air dispersion characteristics exist in the BCLMP area to disperse smoke and air pollutants from burning, we believe the NEPA analysis should include air quality impact analysis for burning of over 8,000 acres of land. Smoke from fire contains air pollutants, including tiny particulates (PM10 and PM2.5) which can cause health problems, especially for people suffering from respiratory illnesses such as asthma or emphysema, or heart problems. PM10 and PM2.5 particles are both of concern, although PM2.5 is greater concern because it can penetrate into the lungs whereas larger particles (included in the coarse fraction of PM10) deposit in the upper respiratory tract. Particulate concentrations that exceed health standards have been measured downwind from prescribed burns.

In addition, prescribed fire could have impacts on Class II areas and Federally-designated Class I areas. Smoke can reduce visibility and diminish the appreciation of scenic vistas (Wilderness Areas or National Parks). The EIS should designate on a map any Class I and II air quality areas within the analysis area. The Northern Cheyenne Indian Reservation is designated as a Class I air quality area. Also the Town of Lame Deer is designated as a PM-10 non-attainment area. The EIS should characterize any air quality problems within the analysis area in terms of source of air pollution, frequency, degree of severity, and describe effects of proposed prescribed burning on air quality. We encourage the Custer National Forest to contact EPA air quality specialist Mr. Kenneth Distler in Denver at 303-312-6043 in regard to inclusion of air quality impact analysis for prescribed burning activities in the FEIS.

The burden of addressing a non-attainment area falls on the State, Federal Land Managers need to ensure protection of the National Ambient Air Quality Standards (NAAQS) by participating in certified State Smoke Management Programs. The EPA gives special consideration to smoke and high particulates attributed to fires managed for resource benefits if the State has certified to EPA that it is implementing a Smoke Management Program with the basic elements. We recommend that the EIS discuss the *Interim Air Quality Policy on Wildland and Prescribed Fires*, and disclose how the

Federal Land Manager is participating in a certified Smoke Management Program, and describe how prescribed burns will be in line with the State certified Smoke Management Program. It may be of interest to the public to display the website for the Montana/Idaho State Airshed Group, <http://www.smokemu.org/>.

A copy of the *Interim Air Quality Policy* can be found at: <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf>. The *Interim Air Quality Policy* was prepared in an effort to integrate the public policy goals of allowing fire to function in its natural role in maintaining healthy ecosystems and protecting public health and welfare by mitigating the impacts of air pollutant emissions on air quality and visibility. It is Federal policy which reconciles the competing needs to conduct prescribed fires while at the same time to maintain clean air to protect public health. It is interim only in that it does not yet address agricultural burning nor visibility/regional haze. It is not interim with regard to how States, Tribes, and Federal land managers should address smoke from prescribed fires.

Smoke management programs depend on favorable meteorological conditions to disperse smoke. However, despite best efforts to predict favorable conditions the weather can change causing smoke not to disperse as intended. Therefore, the EIS should acknowledge that there may be unintentional ground-level impacts from smoke and never presume to the public that there will be no air quality impacts. The public will naturally want to know what the Forest Service will do in the event smoke does not properly disperse. The discussion of the contingency measure element of the smoke management program should address this concern.

It is important to disclose that even though prescribed burns will be scheduled during periods of favorable meteorological conditions for smoke dispersal, the weather can change causing smoke not to disperse as intended. This can be especially problematic for smoldering pile burns when a period of poor ventilation follows a good ventilation day. Also, if there is potential for smoke to drift into populated areas there should be public notification prior to burns so sensitive people (e.g., people suffering from respiratory illnesses such as asthma or emphysema, or heart problems) can plan accordingly.

If there are existing or potential visibility impact to Class I lands a visibility impact analysis should be provided. The EPA's visibility regulations (45 FR 80084, December 2, 1980) protect mandatory Class I Federal areas from manmade impairment that is "reasonably attributable" to a single emission source or small group of sources. Federal land managers have an "affirmative responsibility to protect air quality related values (including visibility)" in Class I areas. You should recognize that the State of Montana has returned the clean air visibility program to EPA (see <http://deq.mt.gov/AirQuality/Visibility.mcp>). This program is intended to address visibility impairments in mandatory Class I areas such as the Northern Cheyenne Indian Reservation. Please call Ms. Laurel Dygkowski of EPA in Denver for latest information on regional haze and visibility issues in Montana at 303-312-6144. See also,

<http://www.fs.fed.us/pnw/fera/research/smoke/haze/index.shtml> .

Additional information on air quality issues is available from EPA websites, <http://www.epa.gov/air/caa/> and on the Forest Service Region 1 air quality website <http://www.fs.fed.us/r1/gallatin/resources/air/> , including the USFS Region 1 air quality analysis document, "Describing Air Resource Impacts from Prescribed Fire Projects in NEPA Documents for Montana and Idaho in Region 1 and 4." We also recommend that efforts be made to educate home owners on the wildland-urban interface who build in fire adapted forest ecosystems regarding the need to use less flammable building materials and to manage fuel and vegetation near their homes (see websites www.firewise.org and www.firelab.org).

Noxious Weeds

15. Weeds are a great threat to biodiversity and can often out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem, such as road building, logging, livestock grazing or fire activities. The DEIS indicates that BMPs would be applied to reduce spread of weeds, but would not prevent weed spread altogether (page 225). We are pleased that Table 5 identifies weed control mitigations.

We encourage tracking of weed infestations, control actions, and effectiveness of control actions in a Forest-level weed database. Weed prevention is the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments. Measures that we often recommend for preventing spread of weeds from source areas to uninfested areas include:

- < Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site.
- < Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into uninfested areas.
- < Attempt to control the spread from one watershed to another to reduce water as a transport vector.
- < If a localized infestation exists and control is not a viable option, consider rerouting trails or roads around the infestation to reduce available vectors for spread.
- < Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.
- < Reseed disturbed sites as soon as possible following disturbance.

While we support use of weed control chemicals where needed, we encourage prioritization of management techniques that focus on non-chemical treatments first, with reliance on chemicals being the last resort, since weed control chemicals can be toxic and have the potential to be transported to surface or ground water following application. Early recognition and control of new infestations is encouraged to stop the spread of the

infestation and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on water quality, fisheries, and biodiversity.

It is important that the water contamination concerns of herbicide usage be fully evaluated and mitigated. All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. The Montana Water Quality Standards include a general narrative standard requiring surface waters to *be free from substances that create concentrations which are toxic or harmful to aquatic life*. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species.

Some suggestions we have to reduce potential water quality and fisheries effects from herbicide spraying are to assure that applicators: 1) are certified and fully trained and equipped with the and appropriate personal protective equipment; 2) apply herbicides according to the label; and 3) herbicide applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.; 4) no herbicide spraying will occur in streams and wetlands or other aquatic areas (seeps, springs, etc.); 5) streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands; 6) use treatment methods that target individual noxious weed plants in riparian and wetland areas (depending on the targeted weed species, manual control or hand pulling may be one of the best options for weed control within riparian/wetland areas or close to water).

We also recommend that road ditches leading to intermittent and perennial streams be flagged as no-spray zones and especially not sprayed with picloram based herbicides. Herbicides should be applied at the lowest rate effective in meeting weed control objectives and according to guidelines for protecting public health and the environment.

We also recommend that weed treatments be coordinated with the Forest botanist to assure protection to sensitive plants, and coordinated with fisheries biologists and wildlife biologists to assure that sensitive fisheries and wildlife habitat areas are protected. Please also note that there may be additional pesticide use limitations that set forth geographically specific requirements for the protection of endangered or threatened species and their designated critical habitat. This information can be found at <http://www.epa.gov/espp/bulletins.htm> . You may also want to consider use of a more selective herbicide (clopyralid) for use in conifer associated communities to reduce impacts on non-target vegetation. We also note that spotted knapweed, which is a prevalent noxious weed species in western Montana, is non-rhizomatous and should be relatively easy to control with lower rates of the most selective low toxicity herbicides.

We also appreciate the discussion of human health and herbicide use (pages 3.15-1 to 3.15-1, 3.15.-2). For your information, the website for EPA information regarding pesticides and herbicides is <http://www.epa.gov/pesticides/>. The National Pesticide Telecommunication Network (NPTN) website at <http://nptn.orst.edu/tech.htm> which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate on pesticides that may be helpful (phone number 800-858-7378).

16. Weed seeds are often transported by wind and water, animal fur, feathers and feces, but primarily by people. The greatest vector for spread of weeds is through motorized vehicles-cars, trucks, ATVs, motorcycles, and even snowmobiles. Weed seeds are often caught on the vehicle undercarriage in mud and released on the Forest. A single vehicle driven several feet through a knapweed site can acquire up to 2,000 seeds, 200 of which may still be attached after 10 miles of driving (Montana Knapweeds: Identification, Biology and Management, MSU Extension Service).

We believe an effective noxious weed control program should consider restrictions on motorized uses, particularly off-road uses, where necessary. Off-road vehicles travel off-trail, disturbing soil, creating weed seedbeds, and dispersing seeds widely. Weed seed dispersal from non-motorized travel is of lesser concern because of fewer places to collect/transport seed, and the dispersal rate and distances along trails are less with non-motorized travel. Restrictions on motorized uses may also be needed after burning and harvest activities until native vegetation is reestablished in the disturbed areas to reduce potential for weed infestation of the disturbed sites.

17. Prescribed fire also has the potential to stimulate weed growth (e.g., Dalmation toadflax or leafy spurge), and can destroy insects planted for biological weed control. We suggest that weed spread considerations be evaluated for burn units. The effect of burning on the potential stimulation of noxious weeds be evaluated during site-specific project level analysis. Also, if sufficient vegetation is killed (e.g., by prescribed burning) it may warrant revegetation efforts to reduce potential for weed invasion on burned units. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native grass species to eventually prevail.

Vegetation Treatments

18. The DEIS Chapter 3 discussion of forest vegetation provides valuable information regarding forest structure and composition, disturbance, insects and pathogens, fire regimes, fuels and fire risks. We support vegetative treatments to reduce fire risks, susceptibility to insect and disease agents, increase structural diversity and ecological integrity. We also support the need to restore fire as a natural disturbance process, and to help address competing and unwanted vegetation and fuel loads and fire risk and forest

health.

We generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts. We also favor retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition may be in decline. The larger healthier trees are generally long-lived and fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need. It would be helpful if the extent of proposed harvest of large trees of desired species in BCLMP harvests were more clearly identified in the FEIS.

19. EPA supports maintaining and restoring adequate large, native, late-seral overstory trees and forest composition and structure within ranges of historic natural variability. Old growth tree stands are ecologically diverse and provide good breeding and feeding habitat for many bird and animal species (e.g., barred owl, great gray owl, pileated woodpecker, northern goshawk). Much old growth habitat has already been lost, and we it is important that management direction prevent continued loss of old growth habitat and promote long-term sustainability of old growth stands, and restore where possible the geographic extent and connectivity of old growth (e.g., using passive and active management-such as avoiding harvest of old growth trees, leaving healthy larger and older seral species trees, thinning and underburning to reduce fuel loads and ladder fuels in old growth while enhancing old growth characteristics). The DEIS indicate that the Forest Plan does not have specific standards, goals, guidelines or recommendations for management of old growth forest.

We note that lands outside the forest boundary have often not been managed for the late-seral or old growth component, so National Forest lands may need to contribute more to the late-seral component to compensate for the loss of this component on other land ownerships within an ecoregion. Will old growth habitat be logged during the proposed project?

We do not oppose underburning to reduce fuel loads and ladder fuels in old growth, since it lessens the threat of stand removal by a wildfire and reduces competition with other vegetation to promote large diameter trees. Careful prescribed burning in old growth stands can reduce fuel loads and fire risk in such stands, and thus, may promote long-term protection and sustainability of old growth stands.

Wildlife/T&E Species

20. The DEIS indicates that the BCLMP area supports prairie dog colonies, although endangered black-footed ferrets are not known to be present, and threatened grizzly bear

are also stated not to be present in the project area (page 274). No other threatened or endangered species are discussed in the DEIS (e.g., Canada lynx, gray wolf). It is stated that the only threatened or endangered species for the Ashland Ranger District is the black-footed ferret (pages 283). The DEIS states that the proposed action “may affect, but is not likely to adversely affect the black-footed ferret or their habitat” (page 289). If it is determined that the proposed project could adversely affect any threatened or endangered species the final EIS should include the associated U.S. Fish & Wildlife Service (USFWS) Biological Opinion or formal concurrence for the following reasons:

- (a) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
- (b) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and
- (c) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative.

21. We are pleased that Table 5 at least 2 snags over 12 inches in diameter would be left per acre or larger trees where they exist to provide snag/cavity habitat. The DEIS states that the proposed action may impact individual northern goshawk, black-backed woodpeckers, and bats and their habitat, but is not likely to cause a trend to Federal listing or loss of viability for these species (page 309, 323, 327). Will monitoring for nest sites of bird species other than goshawk in timber stands occur so that bird nests can be avoided during logging?

Biodiversity

22. Biodiversity may be an important consideration for new projects, major construction or when special habitats (i.e., wetlands, threatened and endangered species habitat) will be affected. The state of the art for this issue is changing rapidly. We recommend that potential project impacts on biodiversity be at least briefly evaluated and discussed in the NEPA document. CEQ prepared guidance entitled, “Incorporating Biodiversity

Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act,” http://ceq.hss.doe.gov/publications/incorporating_biodiversity.html .

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

